



# Programación de Microservicios con Spring Boot y Red Hat SSO

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# Modulo 5 Configuración de Realms, Clientes y Roles

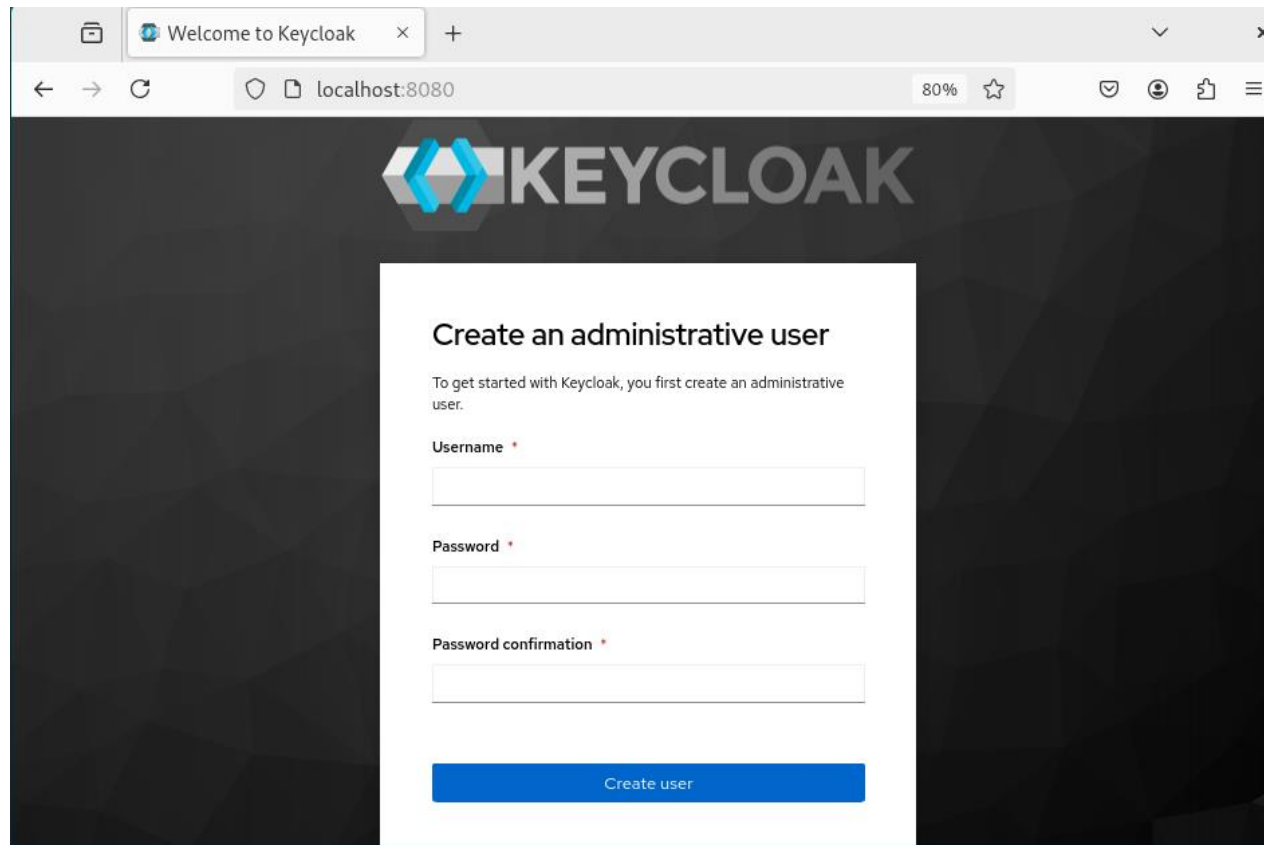
**Objetivo:** Introducción a Red Hat SSO y su integración con el desarrollo de aplicaciones con Spring Boot

Duración: 1h

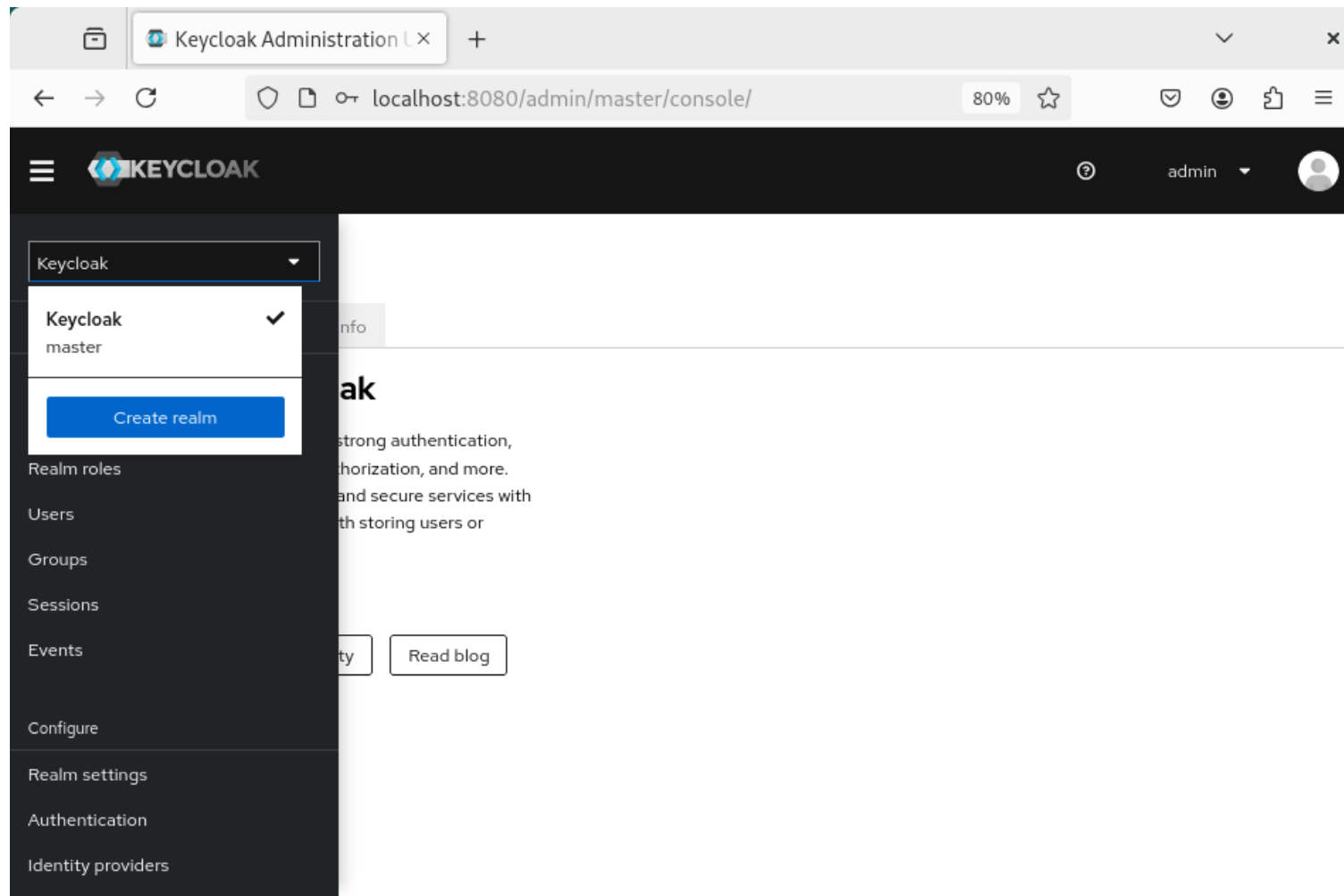


# Iniciando Keycloak/Red Hat SSO

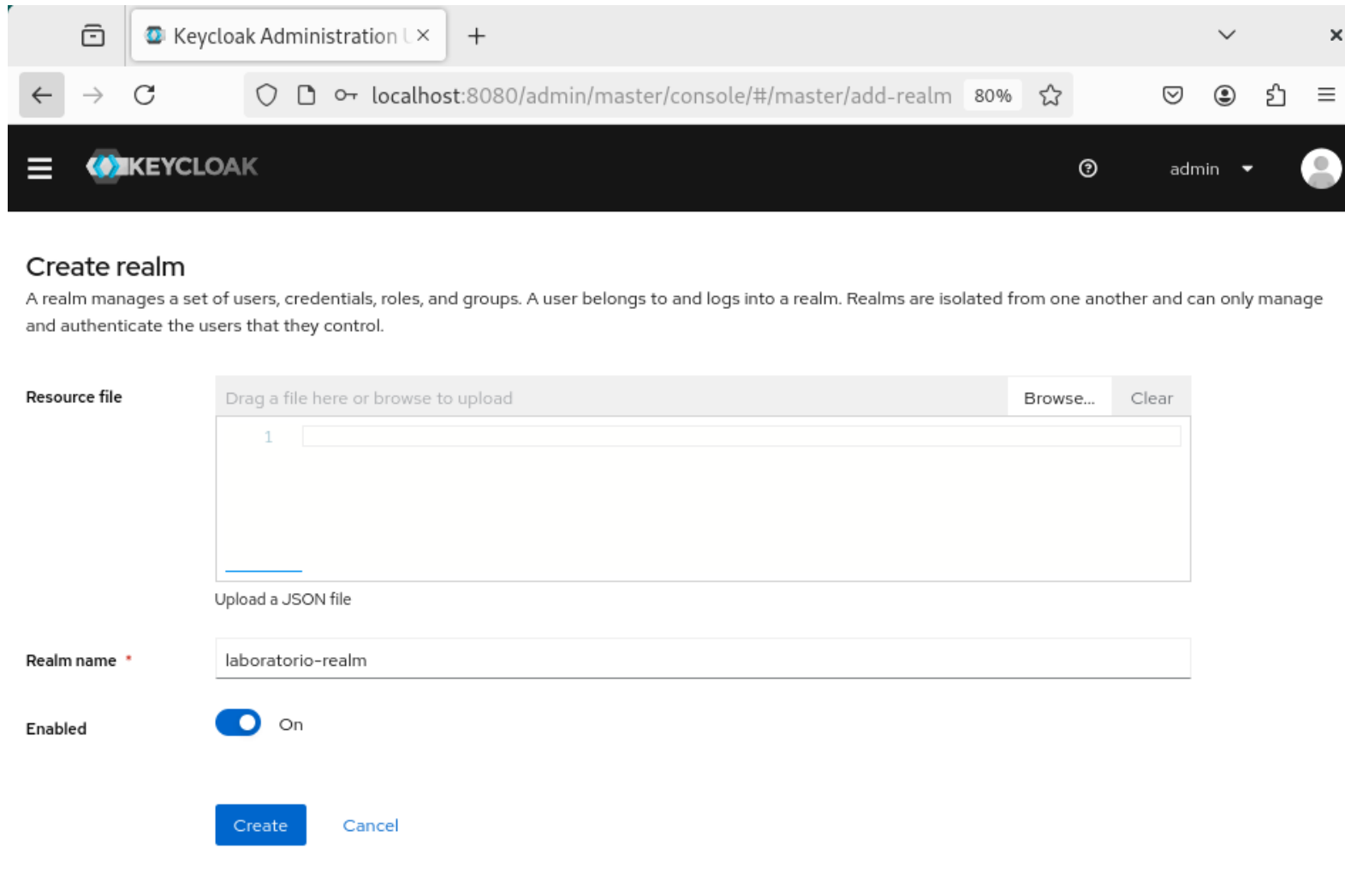
- \$ks.sh start-dev



# Crear un realm específico para microservicios



# continuación



The screenshot shows the Keycloak Administration console in a web browser. The browser's address bar displays the URL `localhost:8080/admin/master/console/#/master/add-realm`. The page header includes the Keycloak logo and the user `admin`. The main content area is titled "Create realm" and includes a description: "A realm manages a set of users, credentials, roles, and groups. A user belongs to and logs into a realm. Realms are isolated from one another and can only manage and authenticate the users that they control."

The "Resource file" section contains a file upload area with a "Browse..." button and a "Clear" button. Below the upload area is a text input field with the value "1".

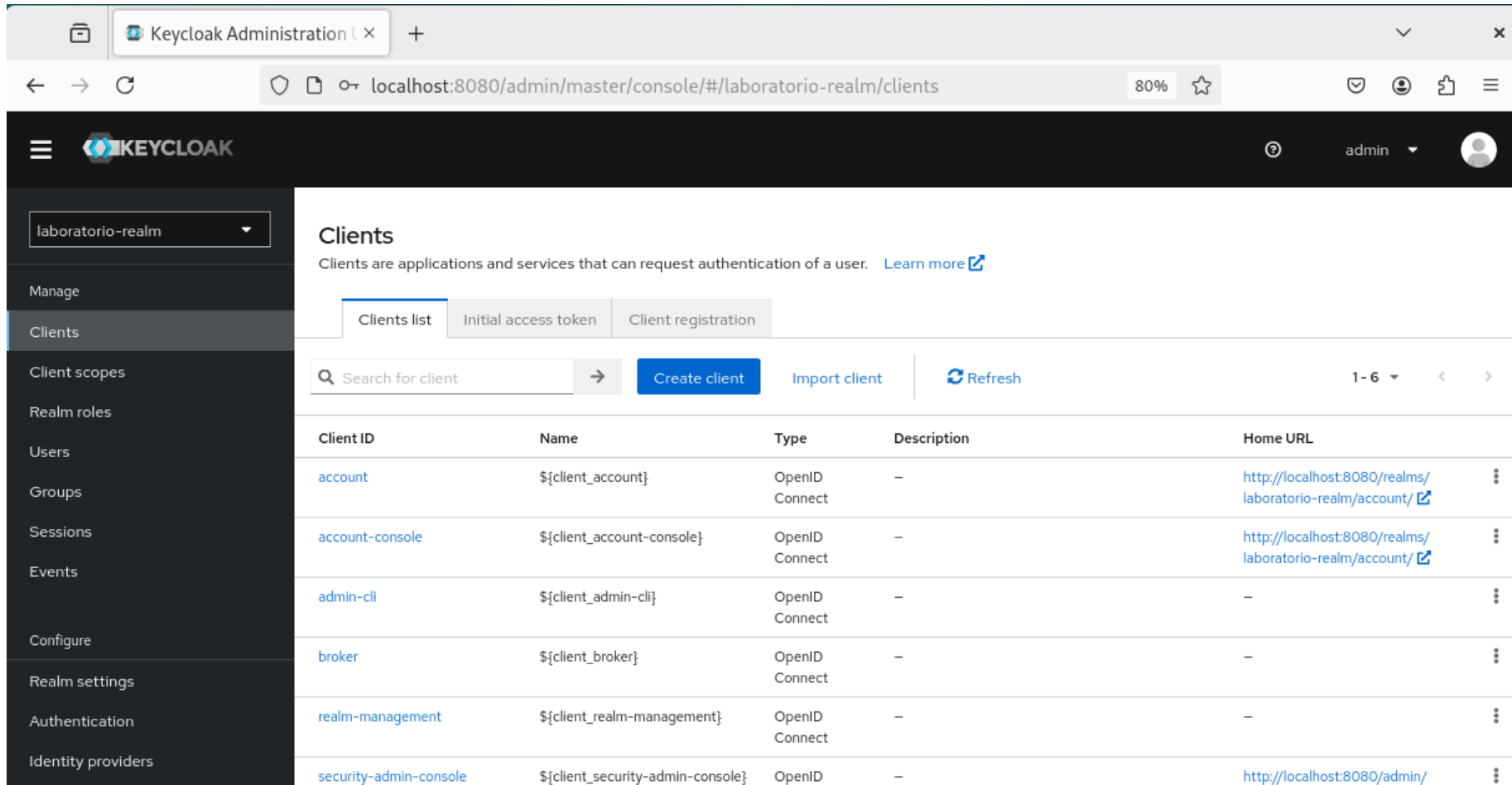
The "Realm name" section has a text input field containing "laboratorio-realm".

The "Enabled" section features a toggle switch that is currently turned "On".

At the bottom of the form are two buttons: "Create" and "Cancel".



# Configuración de clientes confidenciales y públicos



The screenshot shows the Keycloak Administration console interface. The browser address bar indicates the URL is `localhost:8080/admin/master/console/#/laboratorio-realm/clients`. The left sidebar contains a navigation menu with the following items: Manage, Clients (selected), Client scopes, Realm roles, Users, Groups, Sessions, Events, Configure, Realm settings, Authentication, and Identity providers. The main content area is titled 'Clients' and includes a sub-header: 'Clients are applications and services that can request authentication of a user. [Learn more](#)'. Below this, there are three tabs: 'Clients list' (active), 'Initial access token', and 'Client registration'. A search bar labeled 'Search for client' is present, along with buttons for 'Create client', 'Import client', and 'Refresh'. A pagination control shows '1 - 6'. The table below lists the configured clients:

Client ID	Name	Type	Description	Home URL
<a href="#">account</a>	<code>\${client_account}</code>	OpenID Connect	–	<a href="http://localhost:8080/realms/laboratorio-realm/account/">http://localhost:8080/realms/laboratorio-realm/account/</a>
<a href="#">account-console</a>	<code>\${client_account-console}</code>	OpenID Connect	–	<a href="http://localhost:8080/realms/laboratorio-realm/account/">http://localhost:8080/realms/laboratorio-realm/account/</a>
<a href="#">admin-cli</a>	<code>\${client_admin-cli}</code>	OpenID Connect	–	–
<a href="#">broker</a>	<code>\${client_broker}</code>	OpenID Connect	–	–
<a href="#">realm-management</a>	<code>\${client_realm-management}</code>	OpenID Connect	–	–
<a href="#">security-admin-console</a>	<code>\${client_security-admin-console}</code>	OpenID	–	<a href="http://localhost:8080/admin/">http://localhost:8080/admin/</a>



Keycloak Administration

localhost:8080/admin/master/console/#/laboratorio-realm/clients/add-client

67%

KEYCLOAK

laboratorio-realm

Manage

Clients

Client scopes

Realm roles

Users

Groups

Sessions

Events

Configure

Realm settings

Authentication

Identity providers

User federation

Clients > Create client

Create client

Clients are applications and services that can request authentication of a user.

1 General settings

2 Capability config

3 Login settings

Client type ⓘ

OpenID Connect

Client ID \* ⓘ

springboot-app

Name ⓘ

Description ⓘ

Always display in UI ⓘ

☐ Off

Next

Back

Cancel



Keycloak Administration

localhost:8080/admin/master/console/#/laboratorio-realm/clients/add-client

67%

KEYCLOAK

laboratorio-realm

Manage

Clients

Client scopes

Realm roles

Users

Groups

Sessions

Events

Configure

Realm settings

Authentication

Identity providers

User federation

Clients > Create client

Create client

Clients are applications and services that can request authentication of a user.

1 General settings

2 Capability config

3 Login settings

Client authentication

Authorization

Authentication flow

Standard flow

Implicit flow

OAuth 2.0 Device Authorization Grant

OIDC CIBA Grant

Direct access grants

Service accounts roles

Next

Back

Cancel





Keycloak Administration

localhost:8080/admin/master/console/#/laboratorio-realm/clients/add-client

67%

KEYCLOAK

laboratorio-realm

Manage

Clients

Client scopes

Realm roles

Users

Groups

Sessions

Events

Configure

Realm settings

Authentication

Identity providers

User federation

Clients > Create client

Create client

Clients are applications and services that can request authentication of a user.

1 General settings

2 Capability config

3 Login settings

Root URL ⓘ

http://localhost:8081/\*

Home URL ⓘ

Valid redirect URIs ⓘ

+ Add valid redirect URIs

Valid post logout redirect URIs ⓘ

+ Add valid post logout redirect URIs

Web origins ⓘ

+ Add web origins

SaveBackCancel



Keycloak Administration

localhost:8080/admin/master/console/#/laboratorio-realm/clients/7c10e043

67%

KEYCLOAK

laboratorio-realm

Manage

Clients

Client scopes

Realm roles

Users

Groups

Sessions

Events

Configure

Realm settings

Authentication

Identity providers

User federation

Clients > Client details

springboot-app OpenID Connect

Clients are applications and services that can request authentication of a user.

Settings Roles Client scopes Sessions Advanced

General settings

Client ID <sup>?</sup>

Name <sup>?</sup>

Description <sup>?</sup>

Always display in UI <sup>?</sup> ☐ Off

Access settings

Root URL <sup>?</sup>

Home URL <sup>?</sup>

Jump to section

General settings

Access settings

Capability config

Login settings

Logout settings

Client created successfully

Enabled

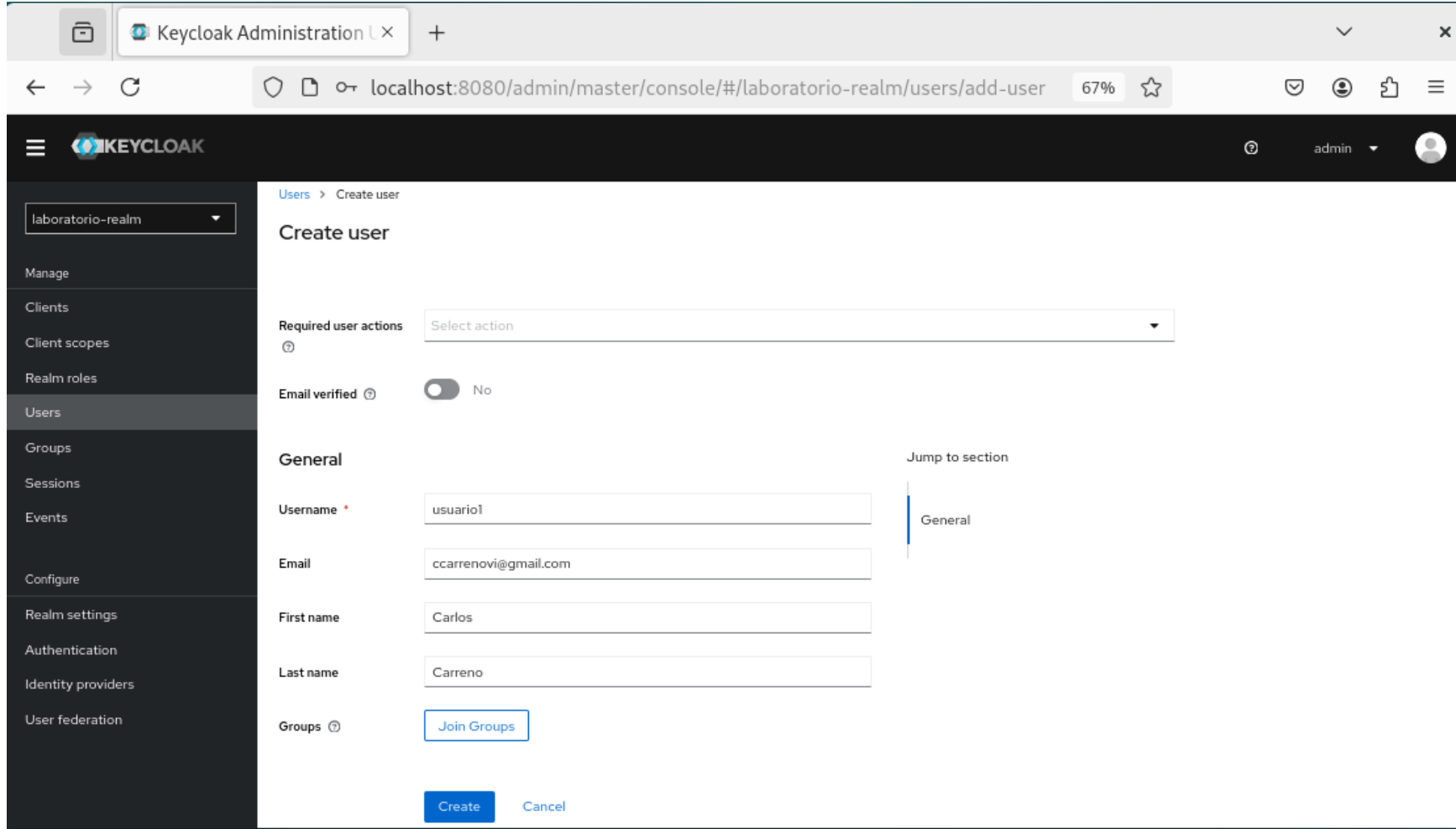
Action

Save

Revert



# Creación de Usuarios

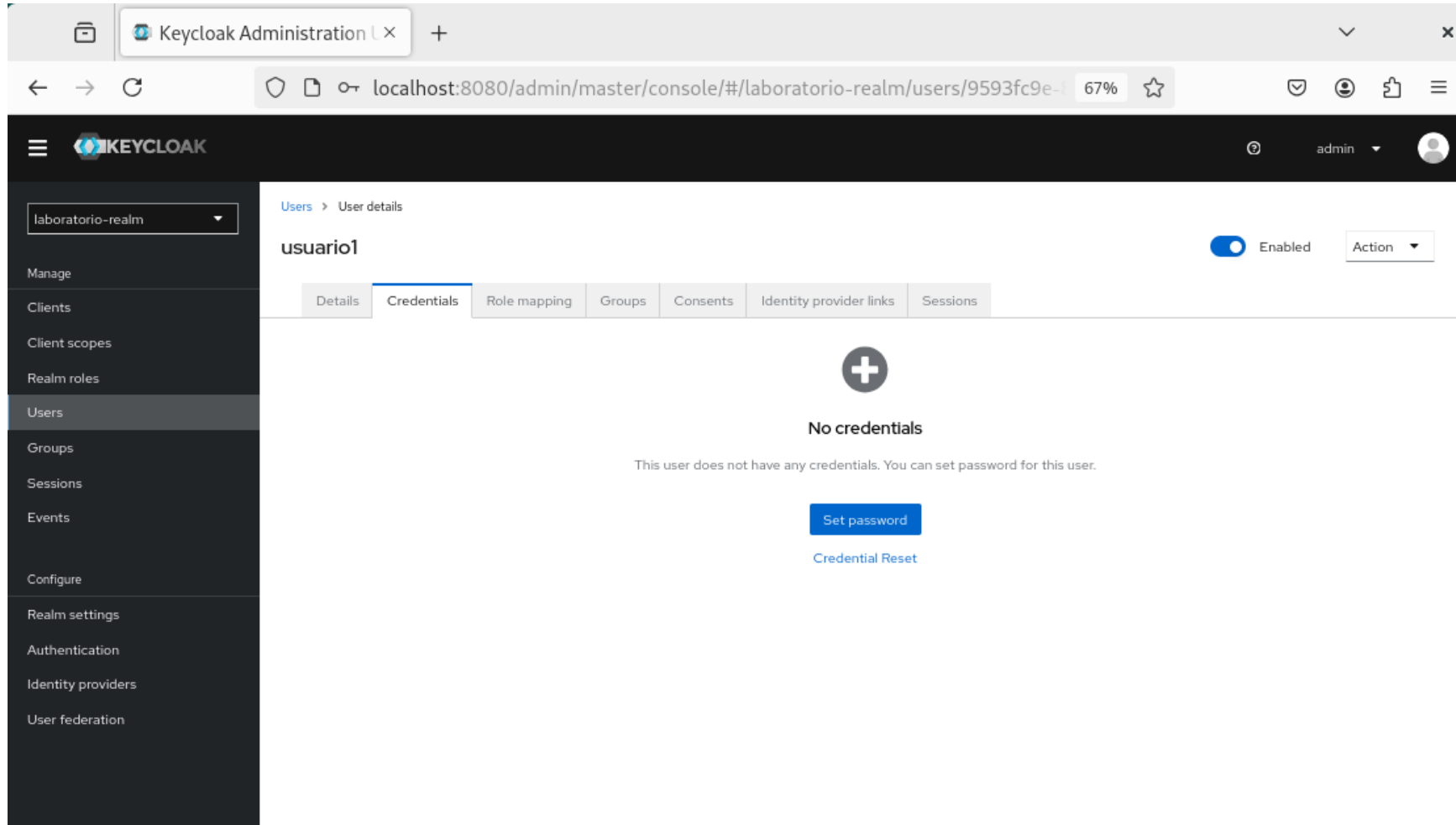


The screenshot displays the Keycloak Administration console in a web browser. The browser's address bar shows the URL `localhost:8080/admin/master/console/#/laboratorio-realm/users/add-user`. The page title is "Keycloak Administration". The left sidebar contains a navigation menu with the following items: "laboratorio-realm", "Manage", "Clients", "Client scopes", "Realm roles", "Users" (highlighted), "Groups", "Sessions", "Events", "Configure", "Realm settings", "Authentication", "Identity providers", and "User federation". The main content area is titled "Create user" and includes the following fields and controls:

- Required user actions:** A dropdown menu with the text "Select action".
- Email verified:** A toggle switch set to "No".
- General section:**
  - Username:** `usuario1`
  - Email:** `ccarrenovi@gmail.com`
  - First name:** `Carlos`
  - Last name:** `Carreno`
  - Groups:** A button labeled "Join Groups".
- Jump to section:** A vertical list with "General" selected.
- Buttons:** "Create" and "Cancel" at the bottom.

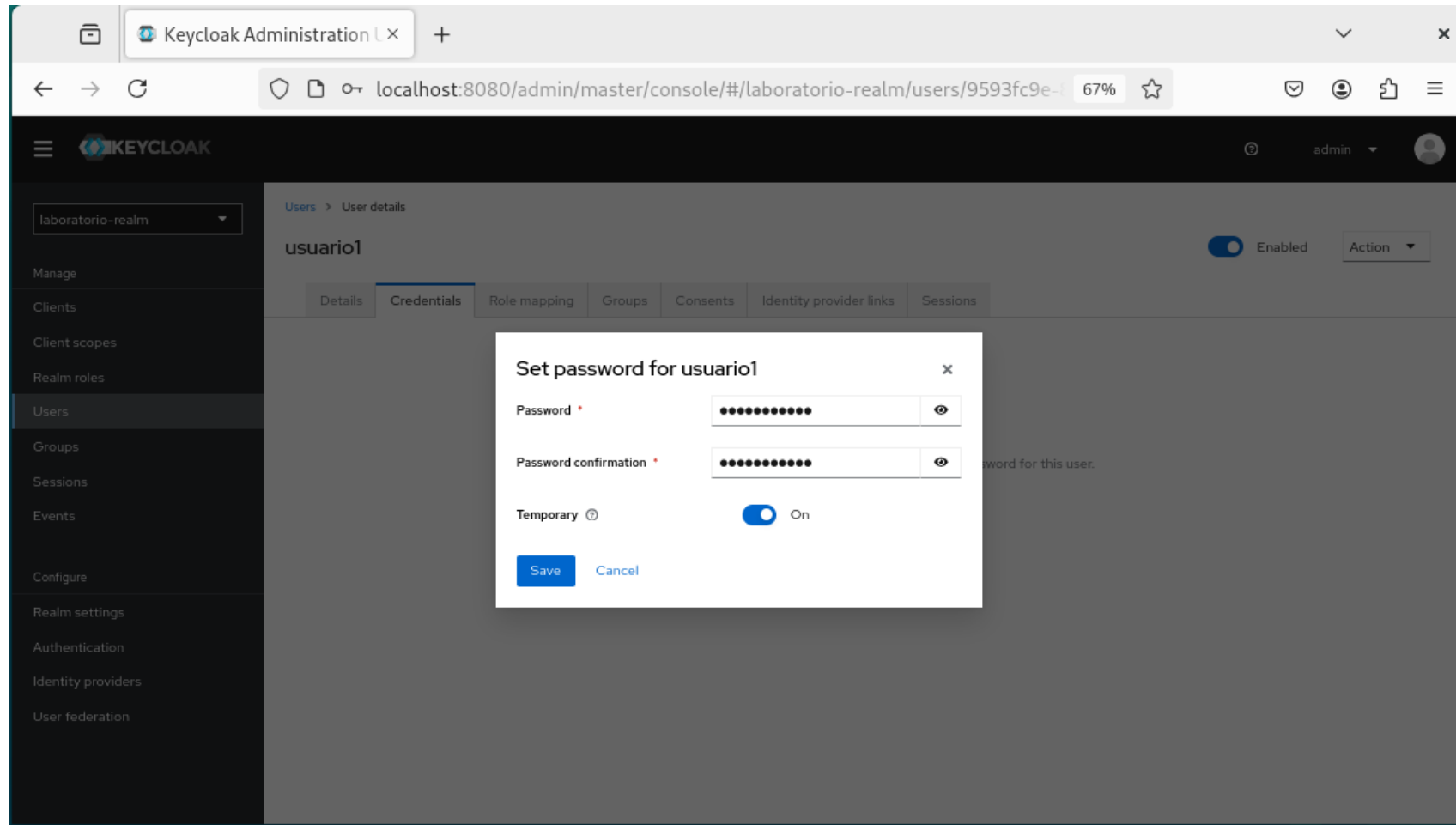


# Credenciales del Usuario



The screenshot displays the Keycloak Administration console interface. The browser's address bar shows the URL `localhost:8080/admin/master/console/#/laboratorio-realm/users/9593fc9e-1`. The left sidebar contains a navigation menu with the following items: Manage, Clients, Client scopes, Realm roles, Users (highlighted), Groups, Sessions, Events, Configure, Realm settings, Authentication, Identity providers, and User federation. The main content area is titled 'usuario1' and includes a toggle switch for 'Enabled' (which is turned on) and an 'Action' dropdown menu. Below this, there are tabs for 'Details', 'Credentials' (selected), 'Role mapping', 'Groups', 'Consents', 'Identity provider links', and 'Sessions'. The 'Credentials' tab shows a large plus icon and the text 'No credentials'. Below this, a message states: 'This user does not have any credentials. You can set password for this user.' At the bottom of this section, there are two buttons: 'Set password' (a blue button) and 'Credential Reset' (a blue link).



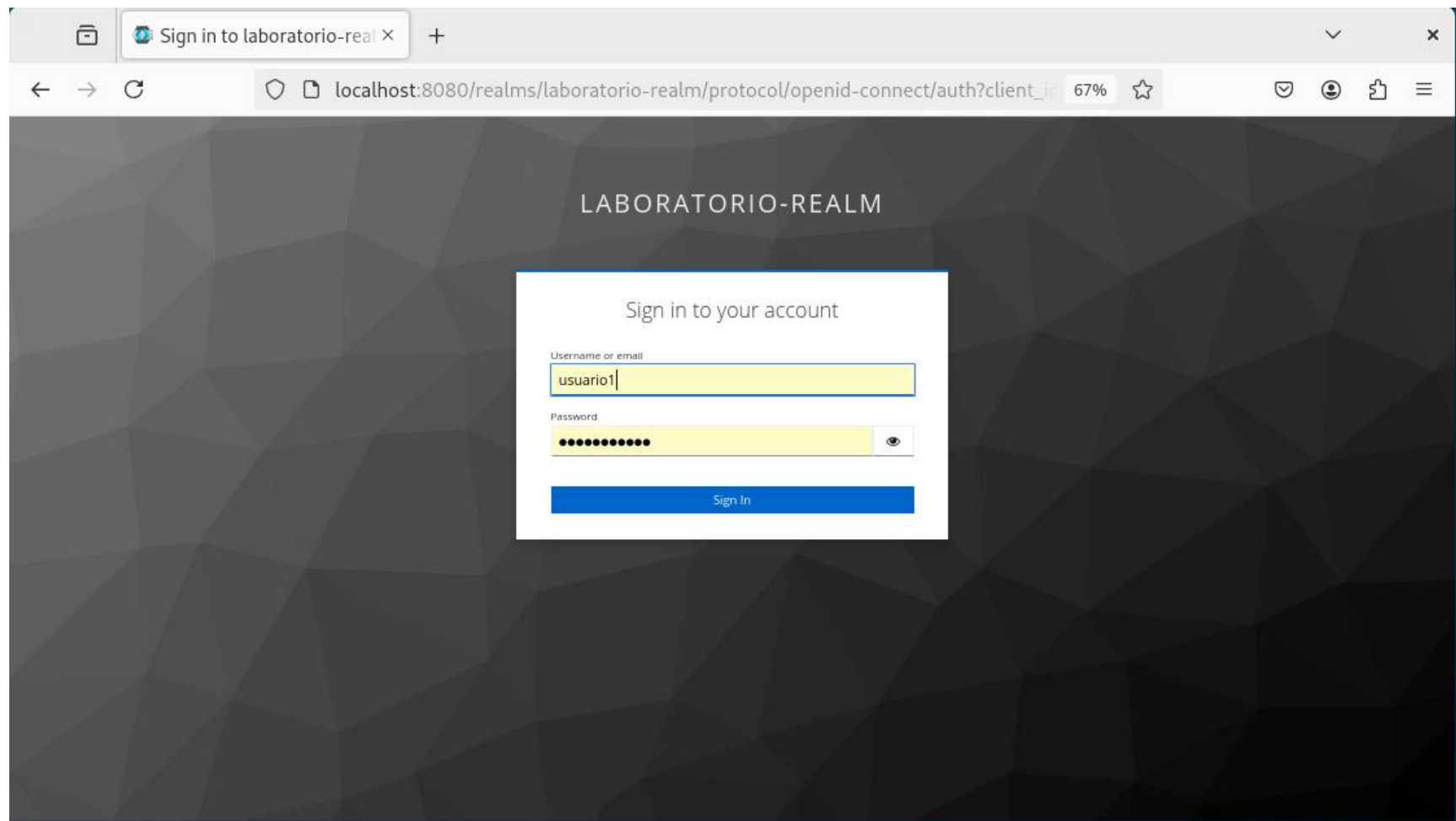


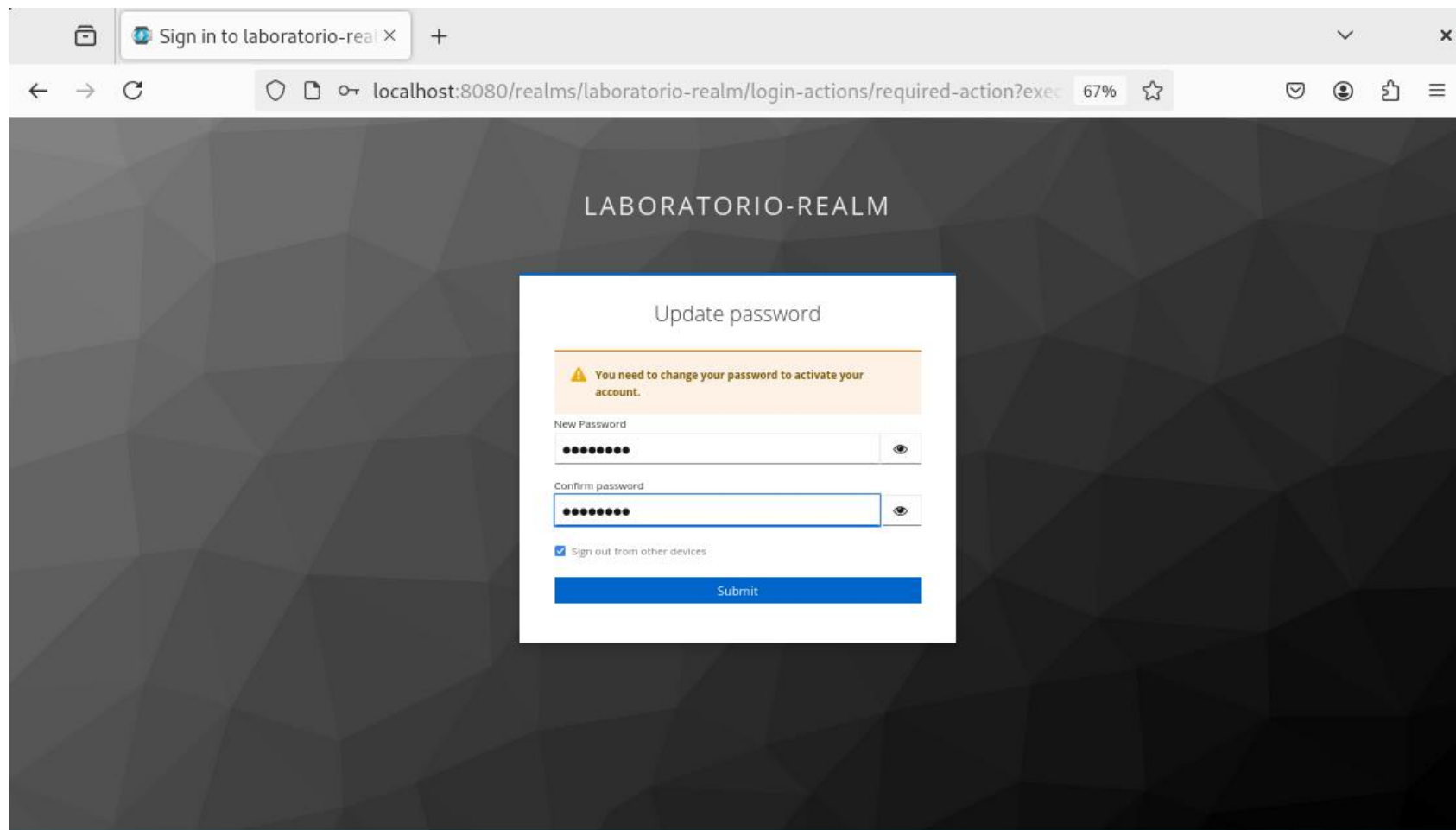
# Resolución de problemas

- Account is not fully set up

```
devops@devops:~$ curl -X POST http://localhost:8080/realms/laboratorio-realm/protocol/openid-connect/token -H "Content-Type: application/x-www-form-urlencoded" -d "client_id=springboot-app" -d "username=usuariol" -d "password=password123" -d "grant_type=password"
{"error":"invalid_grant","error_description":"Account is not fully set up"}devops@devops:~$
```



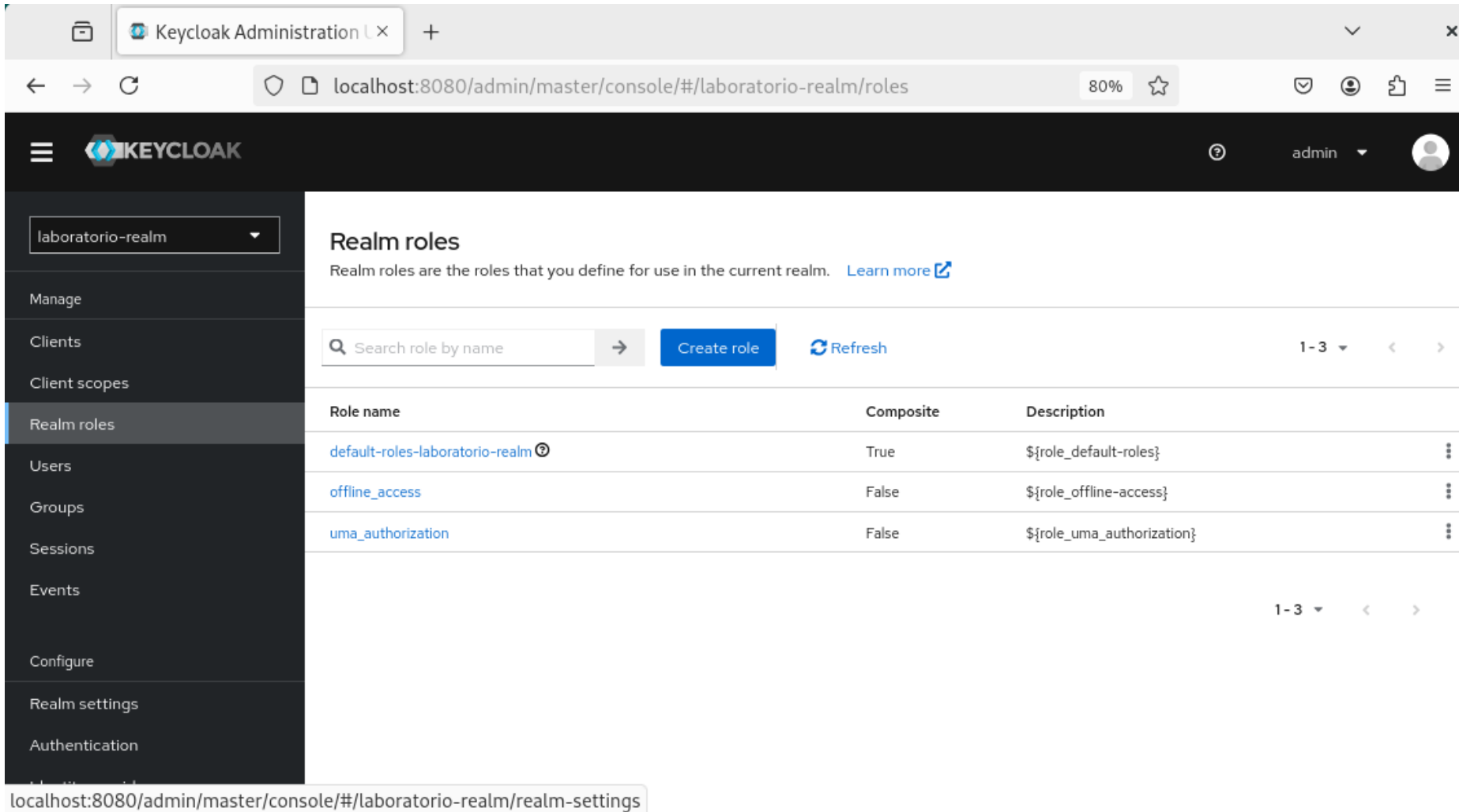








# Definición de roles y grupos



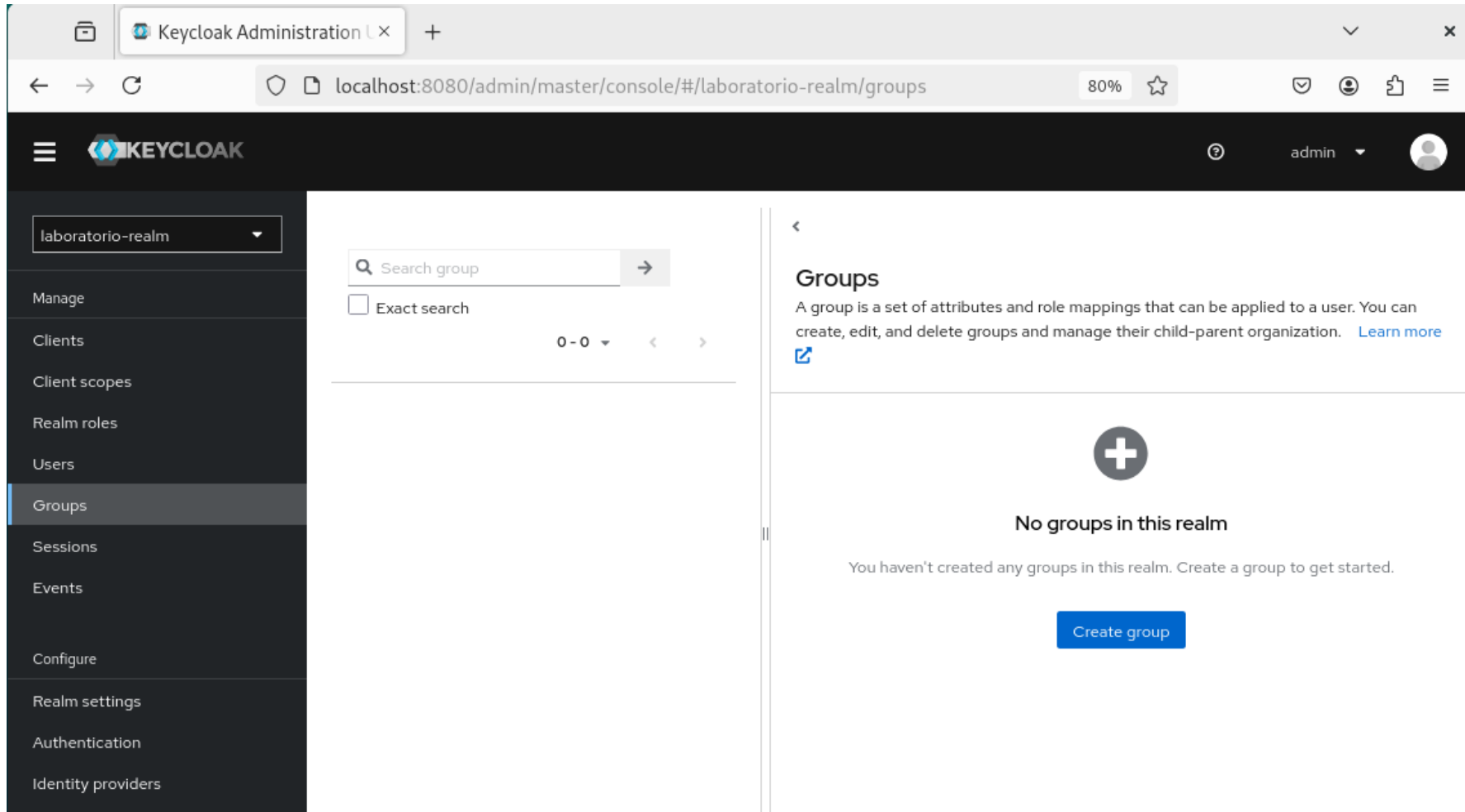
The screenshot displays the Keycloak Administration console interface. The browser's address bar shows the URL `localhost:8080/admin/master/console/#/laboratorio-realm/roles`. The left sidebar contains a navigation menu with the following items: Manage, Clients, Client scopes, **Realm roles** (highlighted), Users, Groups, Sessions, Events, Configure, Realm settings, and Authentication. The main content area is titled 'Realm roles' and includes a subtitle: 'Realm roles are the roles that you define for use in the current realm. [Learn more](#)'. Below the subtitle, there is a search bar labeled 'Search role by name', a 'Create role' button, and a 'Refresh' button. A table lists the roles defined in the realm:

Role name	Composite	Description
<a href="#">default-roles-laboratorio-realm</a>	True	<code>\${role_default-roles}</code>
<a href="#">offline_access</a>	False	<code>\${role_offline-access}</code>
<a href="#">uma_authorization</a>	False	<code>\${role_uma_authorization}</code>

At the bottom of the page, the breadcrumb trail shows the path: `localhost:8080/admin/master/console/#/laboratorio-realm/realms-settings`.



# continuación



The screenshot displays the Keycloak Administration console interface. The browser's address bar shows the URL `localhost:8080/admin/master/console/#/laboratorio-realm/groups`. The left sidebar contains a navigation menu with the following items: Manage, Clients, Client scopes, Realm roles, Users, Groups (highlighted), Sessions, Events, Configure, Realm settings, Authentication, and Identity providers. The main content area is titled 'Groups' and includes a search bar with the placeholder 'Search group' and a search button. Below the search bar is a checkbox labeled 'Exact search'. The main content area also displays a message: 'No groups in this realm' with a subtext 'You haven't created any groups in this realm. Create a group to get started.' and a blue button labeled 'Create group'.



# Lab

- Práctica: Configuración completa para un cliente Spring Boot

